Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 09
Instructions and Supporting Materials

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Introduction

MassDEP *Permit Applications*, as well as *Instructions & Support Materials*, are available for download from the MassDEP Web site at mass.gov/dep in two file formats: Microsoft Word™ and Adobe Acrobat PDF™. Either format allows documents to be printed.

Instructions & Support Materials files in Microsoft Word™ format contain a series of documents that provide guidance on how to prepare a permit application. Although we recommend that you print out the entire package, you may choose to print specific documents by selecting the appropriate page numbers for printing.

Permit Applications in Microsoft Word™ format must be downloaded separately. Users with Microsoft Word™ 97 or later may complete these forms electronically.

Permitting packages in Adobe Acrobat PDF™ format combine *Permit Applications* and *Instructions & Support Materials* in a single document. Adobe Acrobat PDF™ files may only be viewed and printed without alteration. *Permit Applications* in this format may not be completed electronically.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 09
Permit Fact Sheet

1. What is the purpose of this approval?

A **Restricted Emission Statue** approval is a plan approval legally limiting the amount of potential emissions (see definition in Question 2 of these instructions) from your facility through a restriction on the raw materials used. Your facility's potential emissions determine the air quality regulations with which you must comply and the annual compliance fee you must pay.

Regulation 310 CMR 7.02(12) provides for Restricted Emission Status approvals. The legal authority for this regulation is MGL Chapter 111, sections 142B and 142D.

For specific information on who may or must apply for a Restricted Emission Status approval refer to 310 CMR 7.02(12). The application material submitted to MassDEP and the plan approval letter become the approval.

2. Who must apply?

You must file a Restricted Emission Status Plan if you wish to:

a. change a facility's classification pursuant to 310 CMR 4.00 for compliance fee purposes;
b. limit potential emissions to remain below the applicable thresholds requiring filing of an Emission Control Plan (pursuant to 310 CMR 7.18 - VOC RACT or 310 CMR 7.19 - NO_x RACT);
c. limit potential emissions to remain below "major source" thresholds requiring filing of an Operating Permit (pursuant to 310 CMR 7.00 Appendix C);
d. limit potential emissions for purposes of applicability of any other air quality regulation.

Potential to Emit or **Federal Potential Emissions** means the maximum capacity of a stationary source to emit a regulated pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit a regulated pollutant, including air pollution control equipment and restriction on hours of operation or in the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is **federally enforceable**.

To be federally enforceable:

- a limitation on any facility's capacity to emit a pollutant shall include testing, monitoring, and record keeping procedures sufficient to demonstrate compliance with the limitations. Examples of permit or SIP limitations generally considered federally enforceable are limitations on the allowable capacity of the equipment, requirements for the installation, operation and maintenance of pollution control equipment, limits on hours of operation, and restrictions on amounts of materials combusted, stored, or produced.

- restrictions on operation, production, or emissions must be stated in terms of the shortest averaging time that can be used as a practical matter, e.g., pounds per hour, or gallons per hour, and they must be tied to other enforceable operating restrictions at the source. General limitations on potential to emit, such as yearly limits (e.g., in tons per year), by themselves, are not considered federally enforceable. The use of hourly, daily, weekly, or monthly rolling limits are generally acceptable.

Any federally enforceable limitations or conditions must be enforceable as a practical matter, ensure continuous compliance with the restrictions, and include adequate testing, monitoring, and record keeping procedures sufficient to demonstrate compliance with the limitations or conditions of an applicable federally enforceable document described above. Fugitive emissions, to the extent quantifiable, are included in

determining the potential to emit of a stationary source. Secondary emissions do not count in determining the potential to emit of a stationary source.
Refer to the specific regulations for details on requirements and qualifications.

3. What other requirements should be considered when applying for this approval?

This form is not to be used in applying for approval to construct or modify any source, nor may this form be used to contravene the requirements of any written approval issued by the Department.

Please note that even if you restrict potential VOC emissions to below "major source" status (i.e. 50 tons per year), if your VOC emissions include 10 or more tons per year of a single Hazardous Air Pollutant (HAP) or 25 or more tons per year of any combination of HAPs, your facility would still be "major" and thus would still be subject to Operating Permit as contained in 310 CMR 7.00 Appendix C. See list of HAPs attached to application form.

4. What is the application fee for this approval?

The application fee is $1,550.

5. What is the Primary Approval Location? What is the Reserve Copy Location?

Primary Approval Location:	Reserve Copy Location:
Dep't. of Environmental Protection	**Dep't. of Environmental Protection**
_____* Regional Office	**_____* Regional Office**
Air Quality Control	**Air Quality Control**

*Find your region: http://mass.gov/dep/about/region/findyour.htm

As indicated above, all completed application packages should be submitted in duplicate (one primary copy, one reserve copy) to the appropriate regional office for review and approval.

Upon approval of the application, MassDEP stamps the photocopy and returns it to you for your records. In this manner, MassDEP and the applicant have identical copies of the approved submittal.

You must use Form BWP AQ 09 - Restricted Emission Status when filing.

6. What are the timelines for these plan approvals?

As of February 25, 1994, the timelines are:

	AC	**T1**	**T2***	**PC**
BWP AQ 09	30	90	60	10

*A second technical review will only be conducted if necessary.

7. What is the annual compliance fee for this approval?

The amount of the annual compliance assurance fee is depends on the facility's total potential emissions. Please consult Table 4.03, (Air Quality section) of 310 CMR 4.03 for more information. If you fail to pay the annual compliance assurance fee, your approval could be suspended or revoked.

8. How long is this approval in effect?

The approval is in effect until the facility approved by this action is substantially reconstructed or altered, or until such time as the restrictions approved herein are modified. Both these cases require a new approval before such changes occur.

9. How can I avoid the most common mistakes made in applying for this approval?

a. Answer all questions on the application form and indicate "N/A" (not applicable) where appropriate.
b. Submit all supplementary information requested in the application.
c. Submit two copies of the application to the regional office for review. Find your region: http://mass.gov/dep/about/region/findyour.htm
d. Submit fee and one copy of the MassDEP Transmittal Form http://mass.gov/dep/service/online/trasmfrm.shtml to: Department of Environmental Protection, P.O. Box 4062, Boston, MA 02211.

10. What are the regulations that apply to this approval? Where can I get copies?

These regulations include, but are not limited to:

a. Air Pollution Control Regulations, 310 CMR 6.00 - 8.00.
b. Timely Action and Fee Provisions, 310 CMR 4.00.
c. Administrative Penalty Regulations, 310 CMR 5.00.

They may be purchased at:

State House Bookstore
Room 116
Boston, MA 02133
617-727-2834

State House West Bookstore
21 Elm Street
Springfield, MA 01103
413-784-1376

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 09
Instructions for Applying

Operating Restrictions

Section G: Provide the restriction that will be used to define emissions. The form presumes a fuel or raw material restriction in Item #1, by individual unit, but you are not confined to this option. Alternatives can be described in Item #2. The following briefly describes the intent and requirements of a restriction.

Many regulations in Air Quality are based not on actual emissions, but rather on potential emissions. Simply stated, potential emissions are the amount of emissions that will never be exceeded (usually defined on a yearly basis). While the actual emissions may vary year to year depending upon many factors, these emissions will never exceed the potential.

Without restrictions imposed, potential emissions are the emissions that would result if the equipment operated at 100% of its rated capacity, 100% of the time (24 hours per day, 7 days per week, 52 weeks per year).

With restrictions imposed, potential emissions can be defined as something less than 100% rated capacity, 100% of the time.

Examples of restrictions are:

Limit on the amount of fuel burned.
Limit on the amount of raw material processed.
Limit on the production rate (derating the equipment).
Limit on the hours of operation.
Equipment modifications to limit throughput.

The major considerations in choosing a restriction are:

Facility Needs. Do not propose a restriction which would be unreasonable for the facility. These restrictions are enforceable by law and the facility can be subject to enforcement actions including substantial penalties for exceeding a restriction.

Time Frames. Restrictions must be expressed as a short term rate (for example, per hour, day, or month) and as a yearly (12 month rolling calendar period) rate.

Enforceability. Any restriction proposed must be verifiable as a practical matter. A proposal to restrict emissions to 1 ton per month of NO_x , for example, is unverifiable. However, a proposal to restrict usage of #2 fuel oil to 50,000 gallons per month is readily verifiable through records of fuel purchases at the facility. (See Section J).

For further information, refer to the definition of potential emissions and EPA's June 13, 1989 guidance entitled "Guidance on Limiting Potential to Emit in New Source Permitting" (copy attached).

Emissions

Section H: Provide the equipment emission rate and calculate total emissions based on this rate, and the restrictions specified in Section D. Attach any necessary calculations.

Emission Rate is the rate at which the equipment emits a pollutant. For combustion equipment, this rate is usually specified in terms of lbs per million BTU, lbs per gallon of fuel, lbs per pound of fuel, lbs per horsepower, etc. For other equipment the rate is usually in lbs per hour but can be based on other units. Emission rates are

very dependent upon individual equipment, air pollution control equipment and fuels used. Each unit is a unique case, but emission rates can be determined from:

Approvals or emission standards. If the unit has been previously approved, in writing, by the MassDEP, or is subject to a standard, and an emission rate was established, this is the preferred source for emission rates.

Testing. Testing of the unit could yield an accurate emission rate.

Manufacturers information. Often manufacturers can provide data on emission rates for a particular unit.

Standard factors. Standard emission factors are available for a limited number of sources. These are listed below, but should only be used as a last resort. Refer to EPA document AP-42 "Compilation of Air Pollution Emission Factors" and other documents for details.

Engineering estimates. Estimates can sometimes be derived from other information with certain assumptions. For example, SO_x emission rates can be calculated assuming a maximum sulfur content in fuel and total conversion to SO_x . VOC emissions can be calculated assuming all VOC in a coating is emitted.

Standard Factors (For use only when no other information is available):

Boilers and Ovens:

Sulfur Dioxide (SO_2);

- 2 pounds of SO_2 emitted for every pound of sulfur contained in the fuel (Use the maximum legal sulfur content possible, lbs per BTU).

Nitrogen Oxides (NO_x);

- 67 lbs of NO_x for every 1,000 gallons of oil burned in boilers > 100 million Btu/hr.
- 55 lbs of NO_x for every 1,000 gallons of oil burned in boilers 0.5 to 100 million Btu/hr using residual fuels (#6, #5, #4).
- 20 lbs of NO_x for every 1,000 gallons of oil burned in boilers 0.5 to 100 million Btu/hr using distillate fuels (#2, #1).
- 18 lbs of NO_x for every 1,000 gallons of oil burned in boilers less than 0.5 million Btu/hr using distillate fuels (#2, #1).
- 550 lbs of NO_x for every 1,000,000 cubic feet of gas burned in boilers >100 million Btu/hr.
- 140 lbs of NO_x for every 1,000,000 cubic feet of gas burned in boilers 10 to 100 million Btu/hr.
- 100 lbs of NO_x for every 1,000,000 cubic feet of gas burned in boilers less than 10 million Btu/hr.

Diesel Engines, Turbines and Other Combustion Equipment;

SO_2 : Calculated as indicated for boilers.
NO_x :Calculated from equipment manufacturers specifications (or as contained in a written MassDEP approval).

Total Emissions are the emission factors multiplied by the short term and twelve month rolling calendar period restrictions, accounting for any necessary conversions. For example, a boiler that emits 20 lbs of NO_x per 1,000 gallons of fuel and has a fuel restriction of 2,000 gallons per month would have potential emissions of 40 lbs per month of NO_x . A facility that emits 7.5 lbs of VOC per gallon of coating and has a restriction of 100 gallons of that coating per month would have potential emissions of 750 lbs per month of VOC.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ 09 Potential Emission Restriction Permit Application Completeness Checklist

☐ The MassDEP Transmittal Form is completed: http://mass.gov/dep/service/online/trasmfrm.shtml

☐ All questions have been answered (N/A has been inserted where appropriate).

☐ A signature of the legally responsible official has been included even if an agent has been hired to complete the application. See definitions in 310 CMR 7.00.

☐ Two complete copies of the application are being transmitted for review to Air Quality Control at the appropriate MassDEP Regional Office.

To submit the application package:

☐ Checklist items have been completed.

☐ Send two copies of the application along with one copy of the MassDEP Transmittal Form to:

Department of Environmental Protection
_____* Regional Office
Air Quality Control
*Find your region: http://mass.gov/dep/about/region/findyour.htm

☐ Send fee of $1,550 in the form of check or money order made payable to *Commonwealth of Massachusetts*, along with one copy of the MassDEP Transmittal Form to:

Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention • Air Quality

BWP AQ 09

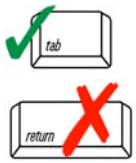
Restricted Emission Status Application

Transmittal Number

Facility ID# (if known)

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Name
2. Street Address
3. City/Town | State | Zip Code
4. Contact

Plan Application Preparer

1. Person who compiled the plan's application materials
2. Representing
3. Address
4. City/Town | State | Zip Code
5. Telephone Number (including extension)
6. Date Completed

B. Applicability

This form is used to apply for a Restricted Emissions Status (RES) in accordance with 310 CMR 7.02(12). Please check all that apply:

☐ 1. restrict potential emissions to allow redesignation, for purposes of compliance fees (310 CMR 4.03); or

☐ 2. restrict potential emissions below the Reasonably Available Control Technology (RACT) applicability thresholds for Volatile Organic Compounds (VOCs) (310 CMR 7.18); or

☐ 3. restrict potential emissions below the Reasonably Available Control Technology (RACT) applicability thresholds for nitrogen oxides (NO_x)(310 CMR 7.19); or

☐ 4. restrict potential emissions below the Reasonable Available Control Technology (RACT) applicability thresholds for halogenated organic compounds (HOCs) (310 CMR 7.18); or

☐ 5. restrict potential emissions below operating permit program (310 CMR 7.00, appendix C) thresholds; or

☐ 6. restrict potential emissions for any other applicable requirement.

This form is not to be used in applying for approval to construct or modify any source, nor may this form be used to contravene the requirements of any written approval issued by the Department.

Pollutant(s) Restricted

Check all that are applicable:

☐ Sulfur Dioxide

☐ Oxides of Nitrogen (NO_x)

☐ Volatile Organic Compounds (VOC)

☐ Halogenated Organic Compounds (HOC)

☐ Hazardous Air Pollutants (HAP)

☐ Other (Describe): _____

Please note that even if you restrict potential VOC emissions to below "major source" status (i.e. 50 tons per year), if your VOC emissions include 10 or more tons of a single HAP or 25 or more tons of any combination of HAPs, your facility would still be "major" thus would still be subject to operating permits at 310 CMR 7.00 Appendix C. See attached list of HAPs begining on page 9.

Supplemental Information

Include all supplemental information necessary to document/substantiate this restriction including but not limited to:

☐ raw material formulation specifications

☐ equipment design literature

☐ examples of recordkeeping

☐ calculations

C. Facility Emission History

This form is for the restriction of POTENTIAL EMISSIONS as described in Sections G and H as well as in the instructions of this form.

For each pollutant which is to be restricted by this approval complete the following, where:

Current Potential Emissions means the potential for the entire facility as it currently exists, accounting for any and all previous approvals and/or restrictions.

Actual Baseline Emissions means the highest actual emissions for this facility since 1990. Note on a separate piece of paper any changes to the facility that are accounted for in that year's emissions (for example, equipment added or removed).

C. Facility Emission History (cont.)

Proposed Potential Emissions means the potential that will be established by this project. You will have to complete the rest of this form before completing this section. Be sure this value is the same as indicated in Section H.

Warning: There may be limits on what you may propose as Potential Emissions based on Current Potential and Actual Baseline Emissions. Specifically, this application cannot be used to avoid or RACT requirements if actual emissions (of VOC, NO X) have exceeded 50 TPY since calendar year 1990.

Air Contaminant*	Current Potential Emissions (TPY)**	Actual Baseline Emissions (TPY)	Proposed Potential Emissions (YPY)
Particulate:			
SO_2			
NO_x			
VOC			
HOC			
HAP (list):			
1.			
2.			
Other (specify):			

* Complete Only for air contaminants that will be affected by this approval.

** TPY = tons per year

D. Historical Usages

Indicate quantity of fuel or raw materials used in year since January 1, 1990, inclusive, that resulted in the Actual Baseline Emissions as reported in Section C - Facility History. (Indicate gallons, cubic feet, pounds, etc.)

	Unit No.	Unit No.	Unit No.	Total
1. Primary fuel used				
2. Auxiliary fuel used				
3. Raw material				
I.				
II.				
III.				

BWP AQ 09

Restricted Emission Status Application

Transmittal Number

Facility ID# (if known)

E. Equipment Description – Fuel Utilization Equipment

Complete this section, Fuel Utilization Equipment and/or Section F, Process Equipment, depending upon the source of the emissions for which you are seeking a restriction.

(use additional pages, if necessary)

	Unit No.	Unit No.	Unit No.
1. Type of Equipment (boiler, oven, space heater, diesel, etc.)			
2. Manufacturer			
3. Model Number			
4. Maximum Input Rating (Btu/hr)			
5. Burner Manufacturer			
6. Model Number			
7. Number of Burners in Each Combustion Unit			
8. Primary Fuel			
a. Type and Grade			
b. Sulfur Content (% by weight)			
c. Maximum Fuel Firing Rate (All burners firing) (indicate gal/hr, lbs/hr, cubic feet per hour, etc.)			
9. Standby or Auxiliary Fuel			
a. Type and Grade			
b. Sulfur Content (% by weight)			
c. Maximum Fuel Firing Rate (All burners firing) (indicate gal/hr, lbs/hr, cubic feet per hour, etc.)			
10. Date of Installation			
11. Modification Since Installation			
a. Type of Modification			
b. Date of Modification			

E. Equipment Description – Fuel Utilization Equipment (cont.)

	Unit No.	Unit No.	Unit No.
12. DEP Air Quality Approvals (if applicable)			
a. Approval Number			
b. Date of Approval			
c. Modifications to Approval (describe):			
Date			
Approval Number			

F. Equipment Description – Process Equipment

	Unit No.	Unit No.	Unit No.
1. Type of Equipment (Coater, Paint Spray Booth, Degreaser, etc.)			
2. Manufacturer			
3. Model Number			
4. Maximum Process Rate* (include amount with units, i.e. gal/hr, lbs/hr, etc.)			
a. raw material(s) (list)			
i.			
ii.			
b. finished material(s) (list)			
i.			
ii.			

* Refers to the maximum rate at which the piece of equipment can utilize raw (or produce finished) materials. This is not the equipment normal operation rate but rather its absolute design capacity.

F. Equipment Description – Process Equipment (cont.)

	Unit No.	Unit No.	Unit No.
5. Date of Installation			
6. Modifications Since Installation			
a. Type of Modification			
b. Date of Modification			
12. DEP Air Quality Approvals (if applicable)			
a. Approval Number			
b. Date of Approval			
c. Modifications to Approval (describe):			
Date			
Approval Number			

G. Operating Restriction

Note: See instructions to complete section G.

Complete Section I – Fuel Utilization Equipment Restriction and/or Section II – Process Equipment Restriction, depending upon the source of the emissions for which you are seeking a restriction.

This restriction can never be exceeded without prior written Department approval.

I. Fuel Utilization Equipment Restriction

1. Fuel Restriction – Enter amount and units (gallons, cubic feet, etc.):

a. Short term rate (check one):

☐ per month
☐ per day
☐ per hour
☐ other _____
(may not be any longer than "per month")

	Unit No.	Unit No.	Unit No.	Total
primary fuel				
auxiliary fuel				

G. Operating Restriction (cont.)

	Unit No.	Unit No.	Unit No.	Total
b. Twelve month rolling calendar period rate:				
primary fuel				
auxiliary fuel				

2. Alternative or additional restrictions. Describe any other physical or operational restriction on the capacity of the equipment to emit a pollutant (including air pollution control equipment):

II. Process Equipment Restriction

This emission restriction can never be exceeded without prior written Departmental approval. Carefully read the instructions and information.

1. Raw Material Restriction – Enter amount and units (gallons, pounds, etc.)

   a. Short term rate (check one):

   ☐ per month
   ☐ per day
   ☐ per hour
   ☐ other _____
   (may not be any longer than "per month")

	Unit No.	Unit No.	Unit No.	Total
i.				
ii.				
b. Twelve month rolling calendar period rate:				
i.				
ii.				

2. Alternative or additional restrictions. Describe any other physical or operational restriction on the capacity of the equipment to emit a pollutant (including air pollution control equipment):

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Restricted Emission Status Application

Transmittal Number

Facility ID# (if known)

H. Emissions

Note: see instructions to complete section H.

1. Emissions rate - For each pollutant you wish to restrict, provide emission rate for each unit (lbs/million BTU, lbs/hr, lbs/hp, lbs./unit product, lbs/gallon coating, etc.) and indicate basis of emission rate (Department approval letter, manufacturer information, emission factor, etc):

	Unit No.	Unit No.	Unit No.
a. SO_2			
rate			
basis			
b. NO_x			
rate			
basis			
c. VOC			
rate			
basis			
d. HOC			
rate			
basis			
e. HAP (list each HAP separately)			
i. _____ Name			
rate			
basis			
ii. _____ Name			
rate			
basis			

Note for c. and d. – Do not include HAP's if listing separately in item e.

Note for e. – Complete only if you wish to limit a particular HAP (see list attached). If HAP that you are restricting is also a VOC or HOC, do not include in item c. or d.

H. Emissions (cont.)

	Unit No.	Unit No.	Unit No.
iii. _____ Name			
rate			

Note for f. – "Other" refers to any other pollutant for which the facility is seeking a restriction, e.g. particulate or CO.

f. Other

rate			
basis			

2. Total emissions – Provide emission totals using proposed restriction in part G (enter amount in tons of pollutant):

   a. Short term rate (check one):

   ☐ per month
   ☐ per day
   ☐ per hour
   ☐ other _____

   (may not be any longer than "per month")

	Unit No.	Unit No.	Unit No.
SO_2			
NO_x			
VOC			
HOC			
HAP			
I. _____			
II. _____			
III. _____			
Other			

"Other" refers to any other pollutant for which the facility is seeking a restriction, e.g. particulate or CO.

H. Emissions (cont.)

b. Twelve month rolling calendar period rate:

		Unit No.	Unit No.	Unit No.
SO_2				
NO_x				
VOC				
HOC				
HAP				
	I.			
	II.			
	III.			
Other				

I. Calculations

Provide details of emission calculations (attach additional pages if necessary):

J. Monitoring/Recordkeeping

Indicate mechanism to verify operational restriction proposed in section G, including:

1. Monitors – Monitoring equipment may include fuel meters and recorders, hour meters and recorders, CEMs, temperature recorders, flow meters, etc.:

J. Monitoring/Recordkeeping (cont.)

2. Recordkeeping - Describe records that will be kept and attach examples. Recordkeeping may include daily logs, meter charts, time logs, fuel purchase records, raw material records, disposal records, excess emission records, CEM records, test reports, etc.:

K. Certification

This form must be signed by the owner or by a responsible company official working at the location of the source. Even if an agent has been designated to fill out this form, the owner or responsible officer must sign it.

"I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

Signed under the pains and penalties of perjury:

Print Name

Authorized Signature

Position/Title

Representing

Date

L. Hazardous Air Pollutants

Hazardous Air Pollutants		Hazardous Air Pollutants	
Name	**CAS #**	**Name**	**CAS #**
☐ Acetaldehyde	75-07-0	☐ Diazomethane	334-88-3
☐ Acetamide	60-35-5	☐ Dibenzofuran	132-64-9
☐ Acetonitrile	75-05-8	☐ 1,2-Dibromo-3-chloropropane	96-12-8
☐ Acetophenone	98-86-2	☐ Dibutylphthalate	84-74-2
☐ 2-Acetylaminofluorene	53-96-3	☐ 1,4-Dichlorobenzene	106-46-7
☐ Acrolein	107-02-8	☐ 3,3-Dichlorobenzidene	91-94-1
☐ Acrylamide	79-06-1	☐ Dichloroethylether (Bis(2-chloroethyl)ether)	111-44-4
☐ Acrylic acid	79-10-7	☐ 1,3-Dichloropropene (1,3-Dichloropropylene)	542-75-6
☐ Acrylonitrile	107-13-1	☐ Dichlorvos	62-73-7
☐ Allyl chloride	107-05-1	☐ Diethanolamine	111-42-2
☐ 4-Aminobiphenyl	92-67-1	☐ N,N-Diethyl aniline (N,N-Dimethylaniline)	121-69-7
☐ Aniline	62-53-3	☐ Diethyl sulfate	64-67-5
☐ o-Anisidine	90-04-0	☐ 3,3-Dimethoxybenzidine	119-90-4
☐ Asbestos	1332-21-4	☐ Dimethyl aminoazobenzene	60-11-7
☐ Benzene	71-43-2	☐ 3,3-Dimethyl benzidine	119-93-7
☐ Benzidine	92-87-5	☐ Dimethyl carbamyl chloride	79-44-7
☐ Benzotrichloride	98-07-7	☐ Dimethyl formamide	68-12-2
☐ Benzyl chloride	100-44-7	☐ 1,1-Dimethyl hydrazine	57-14-7
☐ Biphenyl	92-52-4	☐ Dimethyl phthalate	131-11-3
☐ Bis(2-ethylhexyl)phthalate	117-81-7	☐ Dimethyl sulfate	77-78-1
☐ Bis(chloromethyl)ether	542-88-1	☐ 4,6-Dinitro-o-cresol and salts	534-52-1
☐ Bromoform	75-25-2	☐ 2,4-Dinitrophenol	51-28-5
☐ 1,3-Butadiene	106-99-0	☐ 2,4-Dinitrotoluene	121-14-2
☐ Calcium cyanamide	156-62-7	☐ 1,4-Dioxane (1,4-Diethyleneoxide)	123-91-1
☐ Captan	133-06-2	☐ 1,2-Diphenylhydrazine	122-66-7
☐ Carbaryl	63-25-2	☐ Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8
☐ Carbon disulfide	75-15-0	☐ 1,2-Epoxybutane (1,2-Butylene oxide)	106-88-7
☐ Carbon tetrachloride	56-23-5	☐ Ethyl acrylate	140-88-5
☐ Carbonyl sulfide	463-58-1	☐ Ethyl benzene	100-41-4
☐ Catechol	120-80-9	☐ Ethyl carbamate (Urethane)	51-79-6
☐ Chloramben	133-90-4	☐ Ethyl chloride (Chloroethane)	75-00-3
☐ Chlordane	57-74-9	☐ Ethylene dibromide (1,2-Dibromoethane)	106-93-4
☐ Chlorine	7782-50-5	☐ Ethylene dichloride (1,2-Dichloroethane)	107-06-2
☐ Chloroacetic acid	79-11-8	☐ Ethylene glycol	107-21-1
☐ 2-Chloroacetophenone	532-27-4	☐ Ethylene imine (Aziridine)	151-56-4
☐ Chlorobenzene	108-90-7	☐ Ethylene oxide	75-21-8
☐ Chlorobenzilate	510-15-6	☐ Ethylene thiourea	96-45-7
☐ Chloroform	67-66-3	☐ Ethylidene dichloride (1,1-Dichloroethane)	75-34-3
☐ Chloromethyl methyl ether	107-30-2	☐ Formaldehyde	50-00-0
☐ Chloroprene	126-99-8	☐ Heptachlor	76-44-8
☐ Cresols (mixed isomers)	1319-77-3	☐ Hexachlorobenzene	118-74-1
☐ m-Cresol	108-39-4	☐ Hexachloro-butadiene	87-68-3
☐ o-Cresol	95-48-7	☐ Hexachlorocyclopentadiene	77-47-4
☐ p-Cresol	106-44-5	☐ Hexachloroethane	67-72-1
☐ Cumene	98-82-8	☐ Hexamethylene-1,6-diisocyanate	822-06-0
☐ 2,4-D, salts and esters	94-75-7	☐ Hexamethylphosphoramide	680-31-9
☐ DDE	3547-04-4	☐ Hexane	110-54-3

L. Hazardous Air Pollutants (cont.)

Hazardous Air Pollutants

Name	CAS #
☐ Hydrazine	302-01-2
☐ Hydrochloric acid	7647-01-0
☐ Hydrogen fluoride	7664-39-3
☐ Hydrogen sulfide	7783-06-4
☐ Hydroquinone	123-31-9
☐ Isophorone	78-59-1
☐ Lindane	58-89-9
☐ Maleic anhydride	108-31-6
☐ Methanol	67-56-1
☐ Methoxychlor	72-43-5
☐ Methyl bromide (Bromomethane)	74-83-9
☐ Methyl chloride (Chloromethane)	74-87-3
☐ Methyl chloroform (1,1,1-Trichloroethane)	71-55-6
☐ Methyl ethyl ketone	78-93-3
☐ Methyl hydrazine	60-34-4
☐ Methyl iodide (Iodomethane)	74-88-4
☐ Methyl isobutyl ketone (Hexone)	108-10-1
☐ Methyl isocyanate	624-83-9
☐ Methyl methacrylate	80-62-6
☐ Methyl tert-butyl ether	1634-04-4
☐ 4,4-Methylenebis(2-chloroaniline)	101-14-4
☐ Methylene chloride (Dichloromethane)	75-09-2
☐ Methylene diphenyl diisocyanate(MDI)	101-68-8
☐ 4,4-Methylenedianiline	101-77-9
☐ Naphthalene	91-20-3
☐ Nitrobenzene	98-95-3
☐ 4-Nitrobiphenyl	92-93-3
☐ 4-Nitrophenol	100-02-7
☐ 2-Nitropropane	79-46-9
☐ N-Nitrosodimethylamine	62-75-9
☐ N-Nitrosomorpholine	59-89-2
☐ N-Nitroso-N-methylurea	684-93-5
☐ Parathion	56-38-2
☐ Pentachloronitrobenzene (Quintozene)	82-68-8
☐ Pentachlorophenol	87-86-5
☐ Phenol	108-95-2
☐ p-Phenylenediamine	106-50-3
☐ Phosgene	75-44-5
☐ Phosphine	7803-51-2
☐ Phosphorous	7723-14-0
☐ Phthalic anhydride	85-44-9
☐ PCBs	1336-36-3
☐ 1,3- Propane sultone	1120-71-4

Hazardous Air Pollutants

Name	CAS #
☐ beta-Propiolactone	57-57-8
☐ Propionaldehyde	123-38-6
☐ Propoxur (Baygon)	114-26-1
☐ Propylene dichloride (1,2 Dichloropropane)	78-87-5
☐ Propylene oxide	75-56-9
☐ 1,2-Propylenimine (2-Methyl aziridine)	75-55-8
☐ Quinoline	91-22-5
☐ Quinone	106-51-4
☐ Styrene	100-42-5
☐ Styrene oxide	96-09-3
☐ 2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
☐ 1,1,2,2-Tetrachloroethane	79-34-5
☐ Tetrachloroethylene (Perchloroethylene)	127-18-4
☐ Titanium tetrachloride	7550-45-0
☐ Toluene	108-88-3
☐ 2,4-Toluene diamine	95-80-7
☐ Toluene-2,4-diisocyanate	584-84-9
☐ o-Toluidene	95-53-4
☐ Toxaphene	8001-35-2
☐ 1,2,4-Trichlorobenzene	120-82-1
☐ 1,1,2-Trichloroethane	79-00-5
☐ Trichloroethylene	79-01-6
☐ 2,4,5-Trichlorophenol	95-95-4
☐ Triethylamine	121-44-8
☐ Trifluralin	1582-09-8
☐ 2,2,4-Trimethylpentane	540-84-1
☐ Vinyl acetate	108-05-4
☐ Vinyl bromide	593-60-2
☐ Vinyl chloride	75-01-4
☐ Vinylidene chloride (1,1-Dichloroethylene)	75-35-4
☐ Xylene (mixed isomers)	1330-20-7
☐ m-Xylene	108-38-3
☐ o-Xylene	95-47-6
☐ p-Xylene	106-42-3

Arsenic compounds:

☐ Antimony	7440-36-0
☐ Arsenic	7440-38-2
☐ Arsine	7784-34-1
☐ Beryllium	7440-41-7
☐ Cadmium	7440-43-9
☐ Chromium	7440-47-3
☐ Cobalt	7440-48-4

L. Hazardous Air Pollutants (cont.)

Hazardous Air Pollutants

Name	CAS #
☐ Coke oven emissions	
Cyanide compounds (XCN where X=H or any other group where a formal dissociation may occur):	
☐ Hydrogen cyanide	74-90-8
☐ Glycol ethers (include mono- and di- eters of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR' where n = 1, 2, or 3 R = alkyl or aryl groups R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH)n-OH. Polymers are excluded from the glycol category	
☐ Lead	7439-92-1
☐ Manganese	7439-96-5
☐ Mercury	7439-97-6
☐ Fine mineral fibers (includes glass microfibers, glass wool fibers, rock wool fibers and slag wool fibers, each characterized as "respirable" (fiber diameter < 3.5 micrometers) and possessing an aspect ratio (fiber length divided by fiber diameter) > 3)	
☐ Nickel compounds	7440-02-0
☐ Polycylic Organic Matters (POM) (includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 C)	
☐ Radionuclides (a type of atom which spontaneously undergoes radioactive decay)	
☐ Selenium	7782-49-2